

A New Prescription: Pollution Prevention Strategies for the Health Care Industry

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Proceedings

Section 5: Resource List

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Resource List

*This is a list of resources which may be used to assist those who wish to implement pollution prevention and compliance programs at different types of medical, laboratory, and dental facilities.**

EPA publications listed here can be ordered through your EPA regional office or accessed at <http://www.epa.gov>.

General Medical Facility Resources

Organizations

Carelift International, Inc., GSB Building, 1 Belmont Ave., Suite 425, Bala Cynwyd, PA 19004. Phone: (610) 617-0995. Fax: (610) 668-0930. Carelift International, Inc. is a nonprofit 501(c) 3 organization providing medical relief to the world's needy. The organization has developed four distinct programs to reclaim, and reuse medical equipment, supplies and pharmaceuticals that are currently being disposed into the solid waste stream. Contact them for more information or if you would like to donate excess inventory.

Second Nature, 44 Bromfield St., Fifth Floor, Boston, MA 02108-4909.

Phone: (617) 292-7771. Fax: (617) 292-0150. E-mail: info@2nature.org.

Second Nature – Education for Sustainability is a nonprofit organization working to help colleges and universities expand their efforts to make environmentally sustainable and just action a foundation of learning and practice. Education for Sustainability (EFS) is a lifelong learning process that leads to an informed and involved citizenry having the creative problem-solving skills, scientific and social literacy, and commitment to engage in responsible individual and cooperative actions. Second Nature focuses on colleges and universities because they educate our future teachers, leaders, managers, policymakers, and other professionals.

Sustainable Hospitals Project, Lowell Center for Sustainable Production, University of Massachusetts - Lowell, One University Avenue, Lowell, MA 01854. SHP Phone: 978-934-3259. Clearinghouse Library Phone: (978) 934-3346. Fax: 978-934-3050. E-mail: shp@uml.edu. Website: <http://www.uml.edu/centers/lcsp/hospitals>. The Sustainable Hospitals Project of the Lowell Center for Sustainable Production at the University of Massachusetts Lowell provides health care personnel with tools, training, and technical support to improve the environmental practices of hospitals. The Sustainable Hospitals Clearinghouse provides timely, accurate, and useful about alternative products that do not contain polyvinyl chloride (PVC), mercury, and other potentially harmful materials. The Clearinghouse Library, housed at the Technology Transfer Center of the Toxics Use Reduction Institute, University of Massachusetts, Lowell specializes in alternative products research and alternative product sources for the healthcare industry. The Training Program will educate and train hospital personnel about the need for

* Inclusion in this resource list does not constitute endorsement or approval of these sources of information or technical help by any of the sponsoring agencies or cooperating organizations of this conference.

reducing the use of harmful materials and processes, and provide them with concepts, techniques, and strategies for doing so.

Sustainable Hospitals Project, Great Lakes Center for Occupational and Environmental Safety and Health, University of Illinois School of Public Health, 2121 W. Taylor Street M/C 922, Chicago, IL 60612-7260. Contact: Scott Sederstrom. Phone: (312) 355-0780. Fax: 312-413-7369. E-mail: sseder1@uic.edu

The Sustainable Hospitals Project of the Great Lakes Center for Occupational and Environmental Safety and Health at the University of Illinois' School of Public Health is a technical resource, information clearinghouse, and educational outreach effort for Chicago area and Illinois hospital and health care institutions, public health advocates, regulatory agencies, labor groups, health impacted constituencies, and health care providers on issues related to hospital pollution prevention.

REMEDY (Recovered Medical Equipment for the Developing World), 333 Cedar Street, P.O. Box 20805, New Haven, CT 06520-805. Contact: Darryl Kuperstock. Phone (203) 785-2802. Fax (203) 785-6664. E-mail: REMEDY@Biomed.Med.Yale.edu. Website: <http://gasnet.med.yale.edu/~remedy>. REMEDY (Recovered Medical Equipment for the Developing World) is a safe and efficient method for the recovery of opened, but unused materials from the operating room that began in 1991 at the Yale-New Haven Hospital in New Haven, CT. Instead of being discarded, these materials are collected and, through hospital-charity partnerships, shipped to developing countries where they are so desperately needed.

Southeast Michigan Outreach, *National Wildlife Federation*. Phone: (313) 769-3351. Contact: Guy Williams. Southeast Michigan Outreach provides outreach to hospitals to reduce mercury in products and waste streams.

Southeast Michigan Medical Mercury Outreach, *Michigan Department of Environmental Quality*. Phone: (517) 373-0939. Contact: Steve Kratzer. Southeast Michigan Medical Mercury Outreach provides outreach to medical waste incinerators and their customers on how to reduce mercury in hospital and medical waste.

The Toxics Action Center. Phone: (617) 292-4821. Contact: Eric Weltman
The Toxics Action Center is a non-profit environmental organization that assists citizens working to prevent waste and pollution in their communities. Resources include Preventable Poisons: A Prescription for Reducing Medical Waste in Massachusetts, a report co-authored with the Greater Boston Physicians for Social Responsibility.

Wisconsin Medical Mercury Project, University of Wisconsin Extension, Solid and Hazardous Waste Education Center. Phone: (608) 227-3160. The Wisconsin Medical Mercury Project provides assessments to hospitals and medical facilities. Services also include outreach, information, and technical assistance.

Books

Environmental management in Healthcare Facilities, edited by Kathryn D. Wagner (1988 W.B. Saunders Company).

Generations at Risk: How Environmental Toxins May Affect Reproductive Health in Massachusetts by Ted Schettler, M.D., M.P.H. (1996 Physicians for Social Responsibility).

Medical Waste Disposal by Calvin R. Brunner (1998 Incinerator Consultants Incorporated).

An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities (1993 American Society for Healthcare Environmental Services), and *companion Guidebook for Hospital Waste Reduction Planning and Program Implementation* (1996 American Society for Healthcare Environmental Services). To order, contact the Environmental Services of the American Hospital Association, One North Franklin Chicago, IL 60606. Phone 1-800-242-2626. Fax: (312) 422-4505.

Pollution Prevention for Health Care Facilities by Hollie Shaner. (1997 American Society for Healthcare Environmental Services). To order, contact the Environmental Services of the American Hospital Association, One North Franklin, Chicago, IL 60606. Phone 1-800-242-2626. Fax: (312) 422-4505.

Becoming a Mercury Free Facility: A Priority to Be Achieved By the Year 2000 by Hollie Shaner. (1997 - Professional Development Series of the American Society for Healthcare Environmental Services). To order, contact the Environmental Services of the American Hospital Association, One North Franklin, Chicago, IL 60606. Phone: 1-800-242-2626. Fax: (312) 422-4505.

Reports, Educational Booklets & Brochures

Best Management Practices for Hospitals & Medical Facilities. Booklet with fact cards, from the Palo Alto Regional Water Quality Control Plant Medical Project. Phone: (415) 329-2598 or (415) 329 2421. Contact: Ken Torke.

The Case Against Mercury: Rx for Pollution Prevention (1995 Terrene Institute, in cooperation with the U.S. Environmental Protection Agency Region 5, Chicago, IL). This brochure introduces readers to the dangers of mercury in the environment, to alternatives for mercury in a health care setting, and to proper management of used mercury or mercury spills.

Closing the Loop: How to Reduce, Reuse, Recycle Medical Materials (1998, The Wisconsin Office of Citizens for a Better Environment). This publication examines the medical material chain, identifies key challenges faced in reducing, reusing, and recycling materials and offers suggestions on successful solutions. Copies are available from Citizens for a Better Environment, 152 W. Wisconsin Ave, Suite 510, Milwaukee, Wisconsin 53203. Phone (414) 271-7280. Copies are also available from the Medical Waste Coordinator, Wisconsin Department of Natural Resources, P.O. Box 7921, Madison, Wisconsin 53707-7921.

First, Do No Harm: Reducing the Medical Waste Threat to Public Health and the Environment (1997, The Environmental Working Group/The Tides Center). This publication contains a series of state-level reports with a national overview, and is a product of a collaborative public education effort by members of Health Care Without Harm: The Campaign for Environmentally Responsible Health Care. Copies are available at <http://www.ewg.org> or by contacting Health Care Without Harm, CCHW, PO Box 6806, Falls Church, Virginia 22040, phone 703-237-2249.

Guidebook for Hospital Waste Reduction Planning and Program Implementation (1996 The American Society for Healthcare Environmental Services). This is the companion guide to *An Ounce of Prevention* and provides you with tools, guidelines, and information to help you navigate through the regulatory and financial maze associated with establishing a waste management program for your facility. To order, contact the Environmental Services of the American Hospital Association, One North Franklin Chicago, IL 60606. Phone 1-800-242-2626. Fax: (312) 422-4505.

Guides to Pollution Prevention: Selected Hospital Waste Streams (1990, US Environmental Protection Agency). This guide provides an overview of hospital waste generating processes and presents options for minimizing waste generation through source reduction and recycling.

Hospital Plastics Characterization and Recycling Feasibility Study. The Society of the Plastics Industry, Inc., 1275 K Street, NW Suite 400, Washington, D.C. 20005. Phone: 1-800-2-HELP-90.

Hospital Waste Reduction Checklist, (1996. University of Wisconsin Extension Solid and Hazardous Waste Education Center). A 14 page guide by the Wisconsin Solid and Hazardous Waste Education Center. Phone: (608) 227-3160.

Hospital Waste Reduction; A Step-by-Step Guide to a Healthier Environment. New Jersey Hospitals for a Healthy Environment, 760 Alexander Road, CN-1, Princeton, MN 08543-0001. Phone: (609) 275-4000.

Implementation of the Mercury-Containing and Rechargeable Battery Management Act. This 1997 booklet by the United States Environmental Protection Agency explains what the Mercury-Containing and Rechargeable Battery Management Act (the Battery Act) means to you. It includes a summary of previous state and federal requirements that affected battery recycling, a summary of the Act's requirements, why proper disposal or recycling is necessary for Ni-Cd and SSLA batteries, and finally, state, local, and private-sector initiatives to recycle used rechargeable batteries.

Massachusetts Water Resource Authority/Medical, Academic, and Scientific Community Organization Hospital Mercury Workgroup Reports, Guidebooks, and Manuals. MASCO. Phone: (617) 632-2860. Website: <http://www.masco.org/mercury>. Contact: David Eppstein.

Medical Waste Pollution Prevention Fact Sheets (US EPA, Region 5)

- Keeping Mercury Out of Medical Waste
- Use of Alternative Products
- Keep Mercury Out of the Waste Water Stream

US EPA. Phone: (312) 886-3493. Contact: Chris Urban

Mercury in the Health Care Sector: The Cost of Alternative Products. This report compares the cost of mercury containing equipment and products with non-mercury alternatives at hospitals. (Cost \$17), Pollution Probe. Phone: (416) 926-1907.

Mercury Use in Hospitals & Clinics by the Minnesota Office of Environmental Assistance. This handout is excerpted from the Wisconsin Mercury Source Book and adapted for Minnesota hospitals and clinics. Includes information on mercury-containing products unique to hospitals and clinics, case studies describing source substitution experiences, and action ideas for pollution prevention, recycling, and management practices for a hospital or clinic. A good overview of the types of mercury-containing products and alternatives that may exist in hospitals and clinics is also provided. Minnesota Office of Environmental Assistance, 520 Lafayette Rd., 2nd Floor St. Paul, MN. Phone: (612) 296-3417 or 1-800-657-3843.

Mercury Pollution Prevention in Healthcare: A Prescription for Success (1997 National Wildlife Federation). This booklet has a good background on the mercury problem and list of resources. National Wildlife Federation, Great Lakes Natural Resource Center 506 E. Liberty, 2nd Floor, Ann Arbor, MI 48104-2210. Phone: (313) 769-3351. Website: www.nwf.org.

The New England Healthcare System VISN 1: Recycling Pilot Program, March 1, 1997 by Thomas E. Adamowich and David J. Maine. This facility went from recycling two tons a month of corrugated cardboard, white paper, newspapers and magazines to 8 tons of materials a week. Edith Nourse Rogers Memorial Veterans Hospital 200 Springs Rd. Bedford, MA 01730.

Pollution Prevention for Hospitals and Medical Facilities. Palo Alto Regional Water Quality Control Plant Medical Project. Phone: (415) 329-2598 or (415) 329 2421. Contact: Ken Torke.

Pollution Prevention Workshop and Resource Guides, 1996. Designed for staff, management and/or owners, as well as suppliers, the guides summarize key workshop materials and provide the basis of practical pollution prevention as applied to typical operating activities of industrial and institutional sectors. Hospital Community (Price: \$20.00 plus \$7.50 shipping). Canadian Center for Pollution Prevention. Phone: 1-800-667-9790.

Preventable Poisons: A Prescription for Reducing Medical Waste in Massachusetts (1997 Greater Boston Physicians for Social Responsibility and the Toxics Action Center) (\$5.00) Principal authors are Ted Schettler, MD, MPH, and Eric Weltman, MA. Toxics Action Center . Phone: (617) 292-4821.

Silverbulletin: Mercury Pollution Prevention Education Project. Brochure developed by Erie County, Department of Environment and Planning. Environmental Compliance Services, 95 Franklin Street Buffalo, NY 14202. Phone: (716) 858-6370. Elevates mercury awareness and encourages voluntary pollution prevention activities in Erie County.

Waste Management Manual of the Mary Hitchcock Memorial Hospital and the Lehey-Hitchcock Clinic, New Hampshire. (1996) This manual was written by the Safety and Environmental Programs Office for the Lebanon campus of Dartmouth-Hitchcock Medical Center (DHMC).. And provides specific guidelines for DHMC's waste management plan and the tools for compliance, education, and training. Also provides a management and disposal methods for laboratory, pathological, radioactive, and infectious wastes. It is available from the Dartmouth-Hitchcock Medical Center. Phone: (603) 650-7488.

Waste Management for Health Care Facilities by Linda D. Lee, M.S. (1992 American Society for Hospital Engineering). This collection of resource documents is intended to assist hospital managers in establishing sound, cost-effective policies and procedures tailored to the needs of individual health care facilities. This series focuses on the broad, functional areas of facilities management and includes volumes on waste management, emergency preparedness, hazard communication/right-to-know, electrical systems, mechanical systems, planning and design, and construction management. American Society for Hospital Engineering, 840 North Lake Shore Drive, Chicago IL 60611.

Water Pollution Reduction Practices: How Hospitals and Health Care Facilities Can Prevent Pollutants from entering the South Bay. (November 1997. San Jose/Santa Clara California Water Pollution Control Plant). Major topics addressed are; sanitary sewer pollution prevention practices, wastewater flow reduction practices, and storm sewer (facility runoff) protection practices. Includes specific pollution prevention practices for areas such as patient wards, central sterilization, radiation therapy & nuclear medicine, and medicine disposal & pharmacies.

Articles Published in Periodicals

"The Accelerated Reduction and Elimination of Toxics in Canada: the Case of Mercury-Containing Instruments in Quebec Hospital Centres" by P. Guerrier et al. (1995. *Water, Air, and Soil Pollution* Volume 80, pp. 1199-1202).

"Battling Environmental Concerns: How Physicians and Hospitals Can Work Together," by David C. Rosen, MD, (March 1996 *Canadian Family Physician*, Volume 42). In early 1990, the Department of Family Medicine at Credit Valley Hospital in Mississauga, Ontario passed a motion to recognize that environmental concerns are a public health issue and to establish a committee of physicians to examine waste management within the hospital.

"Dioxin and Medical Waste Incinerators" by Joe Thorton, Michael McCally, Peter Orris, and Jack Weinberg. (July/August 1996 *Public Health Reports*, Volume 3). An emerging body of information suggests that dioxin contamination has reached a level that may pose a large-scale, long-term public health risk. Of particular concern are dioxin's effects on reproduction, development, immune system function, and carcinogenesis. Medical waste incineration is a major source of dioxins. Health professionals have a responsibility to work to reduce dioxin exposure from medical sources. Health care institutions should implement policies to reduce the use of PVC plastics, thus achieving major reductions in medically related dioxin formation.

"Dissolving Medical Waste" Brandy E. Fisher. (July 1996 *Environmental Health Perspectives*, Volume 104, Number 7). Alternative waste disposal methods leads to using disposable healthcare products such as OREX, a hot-water-soluble polyvinyl alcohol (PVA). PVA is a non-toxic synthetic polymer, and is used to make products such as surgical gowns, towels, patient drapes, sponges, bowls, basins, and diapers.

"EPA On Track to Issue Burn Rule This Month" by Dee NaQuin. (July 1997 *Waste Age*). The U.S. EPA has finally passed their regulations "affecting large, medium, and smaller-scale burners operations, with separate pollution control requirements for each tier". This will force hospitals to reexamine their use of these incinerators, and to investigate other options.

"Green Medicine: Environmental Impact of Health Care" by Kathy S. Worton, MSC, D. (June 1995 *Canadian Family Physician*, Volume 41). Individual health is inextricably linked to the health and vitality of our families, communities, and societies. However, our ethos of patient care should also include the natural environment. Environmental health can influence our spiritual, emotional, and physical well-being. Whether in your own office or your local hospital, the three R's - reduce, reuse, and recycle - provide a practical approach to waste management.

"Headline: Hospitals Agree to Clean Up Wastes" by Deanna Bellandi. (June 29, 1998 *Modern Healthcare Magazine*). Article discusses the signing of the memorandum of understanding between the American Hospital Association and the U.S. Environmental Protection Agency. This memorandum calls for the virtual elimination of mercury from hospital waste by 2005.

"Invisible Costs, Visible Savings: Innovations in Waste Management for Hospitals" by Hollie Shaner and Glenn McRae (April 1996 *Surgical Services Management*, Volume 2 No. 4). Discusses regulated medical waste, segregating waste, the economic impact of waste to hospitals, and reducing costs and increasing safety, etc..

"Medical Waste in the Environment: Do Anesthesia Personnel Have a Role to Play?" By Michael E. Goldberg M.D. , et al. (1996 *Journal of Clinical Anesthesia*, Volume 8). A feasibility study of the mechanics of recycling single-use anesthesia breathing systems and practices of anesthesiologists and nurse-anesthetists in a tri-state region. It consisted of a two-part, open, prospective analysis using pre-printed questionnaires and cost/time analysis of labor and materials. Survey was sent to 413 anesthesiology departments in Pennsylvania, New Jersey, and Delaware, and a hospital/recycling facility for evaluation of time and cost.

"Medical Waste Comes of Age" by Michael Malloy. (July 1997 *Waste Age*). A new federal rule curtails on-site burning of medical waste at hospitals from 50-80%. This has already increased competition for disposal alternatives and treatment of regular medical waste (RMW) is becoming extremely diverse.

Educational Videos & Other Resources

ANA Pollution Prevention Tool Kit for Nurses - This kit was designed for State Nurses Associations (SNA's) to assist nurses (staff, executive, community health) and local bargaining unit leaders to become active in reducing the toxic pollution created as a byproduct of the health care industry. The kit is filled with resources for nurses to be involved in their own work site and community. Cost is \$79.95 List Price/\$55.95 SNA Member Price, or \$47.95 SNA Discounted Price. A special version contains the Greening Hospitals report conducted by Health Care Without Harm, and the following video *The Healthcare Industry's Impact on the Environment: Strategies for Global Change*. Call 1-800-637-0323 or (301) 645-6202 and request item #9811LA.

The Healthcare Industry's Impact on the Environment: Strategies for Global Change (video)
This independent study module includes two 60-minute videos, continuing education information, and a study guide that contains a post-test, post-test answers and explanations, and additional resources and references. It was designed to assist viewers in recognizing the toxicity of dioxin and mercury. It is also designed to motivate you to change the way you procure, use, and dispose of medical supplies; educate patients about the health effects of environmental pollution; and advocate for minimization of medical waste incineration in their communities, states, and the nation. The University of Vermont, Continuing Education, 30 South Park Drive, Colchester, VT 05446. Phone: 1-800-639-3188 or (802) 656-2088.

Natural Rubber Latex Allergy: Recognition, Treatment, and Prevention (video)

This independent study module, Natural Rubber Latex Allergy: Recognition, Treatment, and Prevention, includes a 61 minute video, continuing education information, and a study guide that contains a post-test, post-test answers and explanations, and additional resources and references. It was designed to assist you in recognizing latex allergy as a significant health problem and in

developing strategies to prevent allergic reactions in patients and workers who use or come in contact with products containing natural rubber latex, as well as to prevent further sensitization these individuals. The University of Vermont, Continuing Education, 30 South Park Drive, Colchester, VT 05446. Phone: 1-800-639-3188 or (802) 656-2088.

No Time to Waste - Video written by Hollie Shaner, RN, and Glenn McRae, of CGH Environmental Strategies, and produced by Fanlight Productions (Ann Carol Grossman & Ben Achtenberg). Focuses on the creative efforts of hospital staff, demonstrating a variety of ways hospitals everywhere can reduce waste and save money simultaneously. Study Guide included with the 30 minute video. Cost is \$250, Rental is \$50/day. CGH Environmental, catalog # LL-156. Phone: 1-800-937-4113. Fax: (617) 524-8838.

Websites

[Http://www.epa.gov/grtlakes/seahome/mercury/src/alternat.htm](http://www.epa.gov/grtlakes/seahome/mercury/src/alternat.htm)

This site lists alternative mercury-free medical products.

[Http://www.epa.gov/grtlakes/seahome/mercury/src/mercmed.htm](http://www.epa.gov/grtlakes/seahome/mercury/src/mercmed.htm)

A website about mercury in medical institutions.

[Http://www.epa.gov/seahome/mercury/src/title.htm](http://www.epa.gov/seahome/mercury/src/title.htm)

A website and software developed by Purdue University and the US EPA entitled Mercury Use Reduction and Waste Prevention in Medical Facilities. This software is designed to assist medical professionals reduce the use of mercury in hospitals.

[Http://www.epa.gov/mercury/src/may](http://www.epa.gov/mercury/src/may)

Mercury Management at Mayo Clinic February 13, 1997. Contact: David H. Senjem, Environmental Safety Coordinator. Discusses Mayo clinic's continued efforts to further investigate and reduce the presence of mercury in their hospital. Heavy metal analysis is incorporated in certain product purchases and similar evaluations in certain large components of Mayo's incinerated waste stream.

[Http://www.noharm.org](http://www.noharm.org)

The home page for the Health Care Without Harm campaign provides links, resources, and contact information.

[Http://www.masco.org](http://www.masco.org)

This website will link you to all the documents from the MWRA/MASCO hospital mercury workgroup, including the alternative products database.

[Http://www.healthcare-environet.com/about.html](http://www.healthcare-environet.com/about.html)

Healthcare Environet is a network of healthcare and environmental organizations committed to the promotion of sustainable development in healthcare. They were established through funding from Environment Canada and the Ontario Ministry of Environment and Energy, and is developed in consultation and partnership with healthcare and non-government organizations.

[Http://www.ewg.org/pub/home/reports/greening/greenpr.html](http://www.ewg.org/pub/home/reports/greening/greenpr.html)

The Environmental Working Group's website listed a June 9th press release titled Hospitals Need "Green Overhaul, Survey Finds - Medical Waste Burners Contaminate Baby Food With Dioxins, Fish With Mercury. Some Premier Hospitals Are Cleaning Up, But Most Are Just Starting. This Washington, DC organization says that a new study has found lack of basic environmental practices at major U.S. hospitals is resulting in serious pollution problems and contamination of major foods, including baby foods.

[Http://igm.nlm.nih.gov](http://igm.nlm.nih.gov)

Internet Grateful Med, a product of the U.S. National Library of Medicine (NLM) offers free assisted searching in MEDLINE and other MEDLARS databases via the world wide web. This database was created by the U.S. National Library of Medicine.

[Http://www.nwf.org](http://www.nwf.org) or <http://www.greatlakes.nwf.org>

Mercury Pollution Prevention in Healthcare: A Prescription for Success July 1997. This guide is intended to offer guidance to hospitals that are striving to become mercury-free. It is intended to help healthcare workers and citizens eliminate mercury from hospitals, doctors' offices and other healthcare facilities. It provides information on: 1) Mercury and its effects on people and the environment; 2) the importance of source reduction; 3) the healthcare industry's role in preventing mercury pollution; 4) the whys and hows of becoming mercury-free; and 5) success stories.

[Http://www.uml.edu/centers/LCSP/hospitals/](http://www.uml.edu/centers/LCSP/hospitals/)

The Sustainable Hospitals Project provides health care personnel with tools, training, and technical support to improve the environmental practices of hospitals. In addition to reducing environmental pollution produced by hospitals, the project also improves health and safety for hospital workers and involves them in identifying and controlling hazards. The project is organized by The Lowell Center for Sustainable Production, and draws on the resources and expertise of the University of Massachusetts Lowell, including the Toxics Use Reduction Institute (TURI) and the Department of Work Environment.

[Http://uvmce.uvm.edu/443/hlthcare/waste.html](http://uvmce.uvm.edu/443/hlthcare/waste.html)

This website provides information about a 1998 University of Vermont Teleconference, The Health Care Industry's Impact on the Environment: Strategies for Global Change. Speaker slides, video ordering information and background information is all included.

[Http://www.deq.state.mi.us/ead/p2sect/mercury](http://www.deq.state.mi.us/ead/p2sect/mercury)

Michigan's Mercury (Hg) Pollution Prevention (P2) Home Page includes a link to Health Care Products Known to Contain Mercury & Alternatives.

Recent Press Coverage

"American Hospitals are Major Polluters Due to the Amount of Medical Waste that is Incinerated" Show: *The Osgood File*, Monday, June 29, 1998. Copyright 1998 Burrelles Information Services, CBS News Transcripts.

"Do Physicians Violate Their Oath?" By Amy Sessler, *The Boston Globe*. Sunday, March 22, 1998. City Edition, Section: North Weekly, Pg. 11.

"Environment-U.S.: Hospitals a Major Source of Toxic Pollutants" by Danielle Knight, *Dateline: Washington*, Tuesday June 9, 1998. Copyright 1998 Inter Press Service.

"EPA, Hospital Association Ally in Fight Against Mercury Pollution" by Peter Kendal (Environment Writer), *Chicago Tribune*. Thursday, June 25, 1998 Section: Metro Chicago, Pg. 4; Zone N.

"Medical Waste: Hospitals Add to Toxic Contamination Through Incineration, Group Charges" June 18, 1998 By Business Publishers, Inc., *Solid Waste Report*. Section: No. 25, Vol. 29; ISSN:0038-1128.

"Medical Waste Incineration Major Source of Environmental Mercury, EWG Says" Report by *Pesticide & Toxic Chemical News*. January 14, 1998, Section: No. 12, Vol. 26; ISSN: 0146-0501.

"Medical Waste Incinerators to Close; Major Trash Firm Plans Switch from Burning to Sterilizing Hospital Debris" by Scott Allen, *The Boston Globe*. Wednesday, June 10, 1998, City Edition - Section: National/Foreign; Pg. A8.

"Survey Finds Hospital Waste Disposal Unsafe" June 9, 1998 by H. Josef Herbert, *Associated Press*. ([Http://www.foxnews.com/health/060998/wastes.sml](http://www.foxnews.com/health/060998/wastes.sml))

Laboratory Resources

Books

Pollution Prevention and Waste Minimization In Laboratories, edited by Peter A. Reinhardt, K. Leigh Leonard, and Peter C. Ashbrook (1995 CRC Press).

Methods in Non-radioactive Detection, edited by Gary C. Howard. (1993 Appleton & Lange).

Articles Published in Periodicals

"Biodegradable' Liquid Scintillation Counting Cocktails" by Robert C. Klein and Edward L. Gershey. (October 1990 *Health Physics*, Vol. 59, No. 4 pp. 461-470).

"Radioactive Waste Management at a Large University and Medical Research Complex" by Joseph Ring, Frank Osborne, Jacob Shapiro, and Robert Johnson. (August 1993 *Health Physics*, Volume 65, Number 2).

"Recommendations for Radioactive Waste Reduction in Biomedical/Academic Institutions" by E. Party and E.L. Gershey (April 1989 *Health Physics* Volume 56, Number 4).

A Review of Some Available Radioactive and Non-Radioactive Substitutes for use in Biomedical Research by E. Party and E.L. Gershey (July 1995 *Health Physics* Volume 69, Number 1).

Reports, Guidebooks, & Brochures

Hazardous Materials in the Histopathology Laboratory: Regulations, Risks, Handling, and Disposal by Janet Crookham Dapson and Richard W. Dapson. Includes detailed explanations of environmental, health, and safety regulations (OSHA, EPA, & Canadian), chemical hygiene practices, and a chapter on pollution prevention. Data compiled on nearly 150 chemicals, and includes sections on consumer awareness and contacts for assistance. To order contact Anatech Ltd., 1020 Harts Lake Rd., Battle Creek, MI 49015. Phone: 1-800-262-8324.

Laboratories: Best Management Practices for Water Quality Protection, 1996. 11 pages. Palo Alto Regional Water Quality Control Plant Medical Project. Phone: (415) 329-2421. Contact: Ken Torke.

Low-Level Radioactive Waste from U.S. Biomedical and Academic Institutions: Policies, Strategies, and Solutions by A. Wilkerson, R.C. Klein, E. Party, and E.L. Gershey. (1989, Annual Reviews, Inc.) The Rockefeller University, 1230 York Avenue, New York, NY 10021.

Websites

[Http://esf.uvm.edu/labxl/](http://esf.uvm.edu/labxl/)

Lab XL: Performance Oriented Environmental Regulation for Labs "The purpose of this web page is to provide a clearinghouse for information related to performance-oriented laboratory environmental regulation reform. Its primary focus is the work of the Laboratory Consortium for Environmental Excellence (LCEE) to improve laboratory environmental performance. We are doing this by exploring the development of environmental management systems, sharing ideas and information about training resources, and participating in the development of a Project XL program in collaboration with the EPA" (Project XL: EPA's route to regulatory Reform).

Dental Resources

Reports, Educational Booklets & Brochures

Dentistry and the Environment, A Guidance Document Developed to Increase Dentist's Awareness of Environmental Impacts of Wastes from Dental Facilities, published jointly by the Massachusetts Water Resource Authority and the Massachusetts Dental Society, January 1998. MWRA. Phone: (617) 241-2309. E-mail: cbering@mwra.state.ma.us.

Mercury in Dental Facilities, a report from the Massachusetts Water Resource Authority, September, 1997. MWRA. Phone: (617) 241-2309. E-mail: cbering@mwra.state.ma.us.

Amalgam Waste, Reduction and Recycling, a brochure from the Michigan Dental Association. MDA, 230 N. Washington Square, Suite 208, Lansing, MI 48933-1392. Phone: (517) 372-9070.

A Collection Program for Raw Mercury Supplies from Michigan Dentists, from the Detroit Water and Sewerage Department, September 1996. Phone: (313) 224-2104. Contact: Joan Hughes.

Proper Management of Dental Mercury; & Hazardous Waste Information for Dentists, fact sheets from the Massachusetts Department of Environmental Protection. Massachusetts Department of Environmental Protection. Phone: (617) 292-5597. Contact: Judy Shope.

Resource Guide: Useful Information for Properly Managing Your Dental Wastes May 1997. Prepared by the City & County of San Francisco, the Bureau of Environmental Regulation and Management, and the Water Pollution Prevention Program with the support of the San Francisco Dental Society & the California Dental Association. Phone: 1-800-236-7071 X 4280.

"Possible Alternative Materials to Amalgam for the Restoration of Posterior Teeth," by B.M. Eley, (July 12, 1997, *British Dental Journal*).

Workshop Resource Guide: Pollution Prevention and Waste Management in the Dental Community. This document is \$20.00 + 7.50 shipping and handling. Canadian Centre for Pollution Prevention. Phone: 1-800-667-9790. Contact: Deb Foster

Controlling Mercury in Dental Wastes, Tufts University Capstone Project Report, expected by September 1998. Tufts University. Phone: (617) 627-3211.

Websites

[Http://www.metrokc.gov/hazwaste/estars](http://www.metrokc.gov/hazwaste/estars)

EnviroStars environmental achievement recognition program developed by King County. Includes reports on three dental facilities.

[Http://www.wa.gov/ecology/hwtr/](http://www.wa.gov/ecology/hwtr/)

This website brings you to Washington State Department of Ecology Hazardous Waste and Toxics Reduction Program page. Click on the Dental Recycling Manual link or go directly to [Http://www.wa.gov/ecology/hwtr/97-436.pdf](http://www.wa.gov/ecology/hwtr/97-436.pdf) to download the Portable Document Format version.

[Http://141.211.226.92/health/service/oralinfo/mercury.html](http://141.211.226.92/health/service/oralinfo/mercury.html)

Mercury in Dental Amalgam, is it a Public Concern? Literature Review, Proposed Audience and Content, Health Generalization and Objectives Methods, Proposed Evaluation Method, Considerations.